Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Successful COVID-19 elimination after an alpha variant outbreak in a "safe travel zone"

Since the beginning of the SARS-CoV2 pandemic, strict social containment have been adopted worldwide to avoid the pandemic burden [1]. These measures along with border closing and contact tracing contributed to an efficient elimination strategy [2–4]. Safe Travel Zones (STZ) between zero COVID-19 countries have been implemented with parsimony. The aim of this report is to describe an outbreak in a STZ, means adopted and pitfalls of implementing travel bubbles.

New Caledonia (NC) and Wallis-et-Futuna (WF) are two French territories, Pacific region, committed to an elimination strategy since March 2020. Entries in those territories were conditioned by: a negative RT-PCR within 72 hours of the flight, a 14 days quarantine in hotel ending with a SARS-CoV-2 RT-PCR. Positive patients were hospitalized until confirmed wane of the viral load. Since April 2020, all COVID-19 cases were travellers in quarantine. A STZ was implemented in June 2020. Neither RT-PCR tests nor quarantine were mandatory to travel between territories.

On the March 6, 2021 a patient was diagnosed with a COVID-19 pneumonia in WF leading to his referral to NC Intensive Care Unit. The 7th of March, NC first COVID-19 cases were detected among travellers from WF. Health authorities ended the STZ and strict lockdown was implemented on the 9th of March in both territories. Alpha variant was identified. Epidemiological investigations of this WF outbreak highlighted two hypotheses: a breach during quarantine in WF or a contamination during one of the mixed airflights. Indeed in January 2021, flights between NC and WF were "mixed" flights with passengers from Europe to WF with quarantine (back of the plane) and passengers from NC to WF (front of the plane). The 25th of January was retained as relevant to both causes.

With the aim to stop viral circulation, diagnosis campaign was undertaken in WF. Individuals without severe COVID-19 in WF were asked to self-isolate. Unlike NC, WF immunization program had not started at the time of the outbreak (Table 1). With France support, vaccines and medical staff were sent to WF. Hospital and remote vaccines centres were opened. In NC, the number of COVID-19 vaccination centres raised from 3 to 2 mobile teams to 17 and 5 mobiles teams after the introduction of COVID-19 (Fig. 1).

In NC, the 1280 passengers who flew from WF between the 25th of January and the 5th of March were contacted and tested by serology and/or RT-PCR according to date of exposure. Given difficulties to identify the passengers due to imprecise addresses, implication of local community was assessed. Cases were isolated in the hospital or at the hotel; close contacts and passengers from the last flights were isolated in hotel for 14 days ending with a RT-PCR.

The last local cases were detected on the 25th of March an on the 15th of April in NC and in WF respectively.

We describe a successful COVID-19 elimination due to an outbreak in a STZ which paves the way for future crisis management. The main conditions of success to maintain STZ are to follow similar protocols of surveillance and detection, a strict duration of the quarantine, local community leaders' involvement and real time exchanges of information including contact tracing, no mixed flights and strict quarantine procedures. Stringent decision such as isolation of positive and contacts persons in hotel or hospital with an early lockdown are key elements in insular territories. However, this position may not be sufficient when facing a delta variant introduction.

Table 1
Epidemiological characteristics of the population, diagnostic means and patient outcome secondary to the COVID-19 outbreak in Safe Travel Zone (STZ) between Wallis-et-Futuna (WF) and New Caledonia (NC). Categorical measures are presented with actual value.

	Wallis-et-Futuna (WF)	New Caledonia (NC)
Number of inhabitants	11 558 (in 2018)	271 407 (in 2019)
Number of RT-PCR between the 6th of March and the 12th of April	2106	4116
Number of Antigenic test between the 6th of March and the 12th of April	8105	0
Intensive care unit beds normal/epidemic conditions	1/5	20/30
Date of the first attributable SARS CoV-2 case	January 25, 2021	February 20, 2021
Date of the first diagnosis	March 6, 2021	March 7, 2021
Date of lockdown	March 9, 2021	March 9, 2021
End of lockdown	May 9, 2021	2nd of April
Number of cases related to safe travel zone as of the June 1, 2021	445	31 cases (including two in quarantine)
ICU patients	11 (7 were admitted in NC)	2 (+7 patients from WF)
Death (as of the 1st of June)	7	0
Last local cases linked to the outbreak	April 29, 2021	March 25, 2021
Beginning of vaccination	March 19, 2021 (Moderna)	January 20, 2021 (Pfizer-BioNtech)
Number of vaccination as of the 15th of April	3907 first doses were given (48.7% of the island population).	24 194 first (8.9%) and 11 014 second doses were given. NC vaccination doses was 2076 per week before the crisis to 8050 per week at the highest after introduction.

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Abbreviations

NC	New Caledonia
STZ	Safe Travel Zone
WF	Wallis-et-Futuna

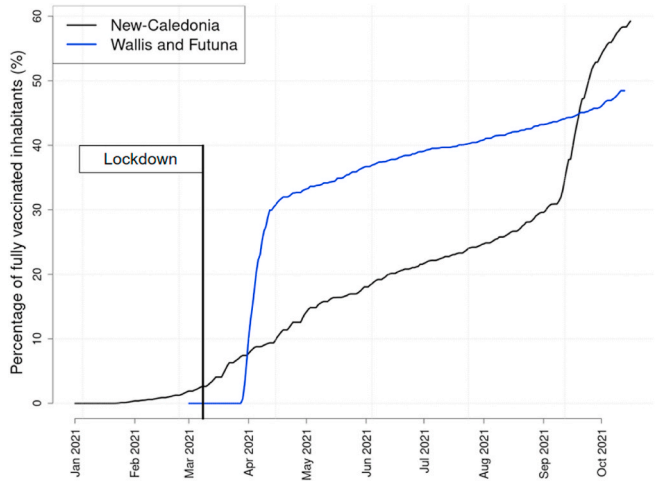

Fig. 1. Percentage of fully vaccinated inhabitants of Wallis and Futuna and New Caledonia in 2021. Vaccine roll-up started the 20th of January in NC and the 19th of March in Wallis and Futuna. The first COVID-19 case was diagnosed on the 6th of March in Wallis and Futuna. The lockdown was implemented on the 9th of March in both territories.

Data sharing

We are prepared to share our data according to French, Wallis-et-Futuna and New-Caledonian laws on health data upon specific request to PHM (pierre-henri.moury@cht.nc).

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Declaration of competing interest

The authors declare that they have no competing interests.

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